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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor	: Lujun Chen et al.	
Appln. No.	: 09/843,370	
Filed	: April 26, 2001	Group Art Unit: 2652
For	: GIANT MAGNETORESISTIVE SENSOR HAVING SELF-CONSISTENT DEMAGNETIZATION FIELDS	Examiner
Docket No.	: S01.12-0730/STL 9852	

THIRD PRELIMINARY AMENDMENT

Box Non-Fee Amendment
Commissioner for Patents
Washington, D.C. 20231

Please amend the above-identified application as follows:

IN THE CLAIMS

Please amend claims 1 and 9 to read as follows:

1. (Twice Amended) A spin valve sensor for use with a data storage system to produce a giant magnetoresistive (GMR) effect in response to applied magnetic fields, the sensor comprising:

a sense current (I), which is horizontally oriented in a longitudinal direction;

a first ferromagnetic free layer having a magnetization (M_1) in a first direction that is aligned in the longitudinal direction of the sense current, when the first ferromagnetic free layer is in a quiescent state;

a second ferromagnetic free layer having a magnetization (M_2) in a second direction that is